

## CLAIMS

1. A filter structure, in particular a particle filter for the exhaust gas from an internal combustion engine, the filter being of the type comprising:

- 5           - at least first and second filter members (15A, 15B) provided with first and second faces (24A, 24B) located facing each other; and
- a joint (17) connecting said faces together and extending between said faces (24A, 24B);

10           the structure being characterized in that the first face (24A) comprises at least a first zone (33A) of strong adhesion with said joint (17) and at least a zone (35A) of weak or no adhesion with the joint (17), said zones (33A, 35A) respectively comprising a first region

15           of strong adhesion with said joint (17) and a region of weak or no adhesion with joint (17), said regions being disposed respectively facing a first region (35B) of weak or no adhesion with said joint (17) on the second face (24B), and a region (33B) of strong adhesion with said

20           joint (17) on the second face (24B).

2. A structure according to claim 1, characterized in that the first face (24A) further comprises a second zone (33C) of strong adhesion with said joint (17) comprising

25           a second region of strong adhesion with said joint (17) placed facing a second region (35C) of weak or no adhesion with said joint (17) on the second face (24B).

3. A structure according to claim 2, characterized in that, in at least one section of the filter structure, the region (35A) of weak or no adhesion with said joint (17) on the first face (24A) lies between the first and second regions (33A, 35C) of strong adhesion with said joint (17) on said first face (24A).

35           4. A structure according to claim 3, characterized in that said section is a longitudinal section.

5. A structure according to claim 3, characterized in that said section is a cross-section.

5 6. A structure according to any one of claims 1 to 5, characterized in that at least one filter member (15) is a prismatic brick having each of its side faces (24) facing a side face (24) of an associated filter member (15), a joint (17) extending between said faces (24) to  
10 connect them together; and in that each of the side faces (24) of the brick comprises at least one zone (33) of strong adhesion between said face of the brick and said joint (17), and at least one zone (35) of weak or no adhesion between said face (24) and said joint (17), said  
15 zones comprising respectively a region (33) of said face of the brick presenting strong adhesion with said joint (17), and a region (35) of said face (24) presenting weak or no adhesion with said joint (17), said regions being disposed respectively facing a region (35) of the facing  
20 face (24) of the associated filter member (15) presenting weak or no adhesion with said joint (17), and a region (33) of the facing face (24) of the associated filter member (15) presenting strong adhesion with said joint (17).

25 7. A structure according to claim 6, characterized in that the region (33D) of the first face (24D) of the brick (15C) presenting strong adhesion with said joint (17) is disposed opposite from a region (35E) of a second  
30 face (24E) of the same brick (15C) presenting weak or no adhesion with said joint (17).

8. A structure according to any one of claims 1 to 7, characterized in that each of the zones (35) of weak or  
35 no adhesion with said joint is covered in an anti-adhesive coating, at least prior to the structure being put into operation.

9. A structure according to any preceding claim,  
characterized in that each of the first and second filter  
members (15A, 15B) has an admission face (21) and an  
5 exhaust face (23) interconnected by said first and second  
faces (24A, 24B), at least one downstream region (35H;  
35L) of the first face (24A) presenting weak or no  
adhesion with said joint (17) extending to the common  
edge (71; 71K) between the exhaust face (23) and said  
10 first face (24A).

10. A structure according to claim 9, characterized in  
that said downstream region (35H) presents a length taken  
parallel to a longitudinal direction (X-X') of the first  
15 filter member (15A) that is less than one-fifth of the  
length of said first filter member (15A) taken along said  
longitudinal direction (X-X').

11. A structure according to claim 10, characterized in  
20 that said downstream region (35H) presents a length,  
taken parallel to a longitudinal direction (X-X') of the  
first filter member (15A), that is less than half of at  
least one other region (33E, 33F) of the same face.

25 12. A structure according to any one of claims 9 to 11,  
characterized in that the first filter member (15A)  
further comprises a side face (24M) adjacent to the first  
face (24K), the side face (24M) presenting a side region  
(33N) of strong adhesion with said joint (17) extending  
30 to the common outlet edge (71M) between said side face  
(24K) and said exhaust face (23).

13. A structure according to any one of claims 9 to 12,  
characterized in that at least the downstream region  
35 (35L) of weak or no adhesion with the joint (17),  
presents surface irregularities (81) beside the joint  
(17), and in particular corrugations and/or grooves.